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10/501,026	07/09/2004	Robert D. Coleman	7255-5	3624

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EXAMINER	
CHUI, MEI PING	
ART UNIT	**PAPER NUMBER**
1616	

NOTIFICATION DATE	DELIVERY MODE
12/10/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/501,026	COLEMAN, ROBERT D.	
	Examiner	Art Unit	
	MEI-PING CHUI	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) *7-9, 13-14, 26-32* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,10-12 and 15-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/05/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____.

DETAILED ACTION

Status of Action

Receipt of Amendments/Remarks, filed on 07/22/2009, is acknowledged. Claims 1-32 are pending in the application.

Receipt of Declaration Under 37 C.F.R. 1.132, filed on 07/22/2009, and Information Disclosure Statement, filed on 11/05/2009, are acknowledged.

Upon further consideration and search, the Examiner has new grounds of rejection presented in this Office Action. Accordingly, this action is made NON-FINAL.

Suggestions:

For claims 1 and 15, Applicant is suggested to correct the term "diethylamine salicylate" to "diethylamine salicylic acid" for clarification.

For claim 15, a "," should be added between the terms "bionic acids" and "alanine" for clarification.

Status of Claims

Accordingly, claims 1-6, 10-12, 15-25 are presented for examination on the merits for patentability as they read upon the elected subject matter and claims 7-9, 13-14, 26-32 directed to non-elected invention are withdrawn.

Rejection(s) not reiterated from the previous Office Action are hereby withdrawn. The following rejections are either reiterated or newly applied. They constitute the complete set of rejections presently being applied to the instant application.

New Grounds of Rejection

Claim Rejections - 35 USC § 112 second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim recites that "the composition of claim 1 comprises one or more of an adjuvant and/or a diluent", which lack sufficient antecedent basis because precedent claim 1 does not recite an adjuvant and/or a diluent is comprised in the composition. If Applicant intends to include any additional component into the composition, the phrase "further" is suggested to be used.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

(1) Claim 1-5, 10-12, 15, 17-18, 20-22, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tate, D. (WO 91/13552) in view of Savage et al. (U. S. Patent No. 5,366,995).

Applicant Claims

Applicant claims a fungicidal composition comprising (**i**) a fatty acid, i.e. oleic acid or palmitic acid; (**ii**) an organic carboxylic acid, i.e. alanine, aspartic acid or glutamic acid, (**iii**) a carrier, i.e. water; (**iv**) at least one emulsifier, and (**v**) the composition further comprising an adjuvant or a diluent; wherein the fungicidally effective amounts is between about 1-99 % v/v, based on the total volume of the composition.

Determination of the scope and content of the prior art

(MPEP 2141.01)

Tate, D. teaches a fungicidal composition for application to plants (page 1, line 1). Tate, D. teaches that the fungicidal composition comprises: (i) a copper-based fungicide with (ii) at least one chemo-tactic substance that can be used to combat fungal and other myco-pathogenic infections in plants (page 1, lines 9 and 11-13). Tate, D. also teaches that the chemo-tactic substances are the substances that produce a positive myco-chemotaxic response from the target fungi, wherein the chemo-tactic substances, i.e. amino acids (e.g. glutamic acid, aspartic acid, or alanine), fatty acids (e.g. oleic acid or palmitic acid) or saccharides can be used (page 2, lines 36-38; page 3, lines 1-3 and 18-25, and page 10, Examples 6 and 7).

It is noted that amino acid alanine has a methyl side chain and a single carboxylic acid functionality contain in its structure, and palmitic acid is a known C_{16}-fatty acid and oleic acid is a known C_{18}-fatty acid.

Tate, D. further teaches that the fungicidal formulation also comprises suitable diluents, carriers (water), or additives, which is usually present in a fungicidal composition (page 5, lines 31-37; page 10, Example).

In addition, Tate, D. also suggests that the fungicide composition can include a crop spray oil to improve coverage (page 10, last 2 lines).

With respect to the concentration of the fatty acid, i.e. palmitic acid, and the amino acids, i.e. alanine, aspartic acid and glutamic acid, Tate, D. exemplify the fungicidal composition comprises about 10 % by weight of palmitic acid (based on the amount of 60 grams in the composition) and the total amounts of amino acids is about 8 % by weight (based on the amount of 48 grams in the composition). Therefore, the teaching of Tate, D. meets the limitation where the fatty acid and the organic carboxylic acid is present in a broad weight ratio of between 1: 1000 and about 1000:1, or between 1:5 and about 5:1, as claimed.

Applicant recites the intended use of the composition in claims 20 and 25, which the composition is suitable for application to harvested fruits, vegetables, berries, seeds, leaves, flowers and nuts. The intended use of the claimed composition does not patentably distinguish the composition, per se, since such undisclosed use is inherent in the reference composition. In order to be limiting, the intended use must create a structural difference between the claimed composition and the prior art composition. In the instant case, the intended use does not create a structural difference, thus the intended use is not limiting.

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

Tate, D. does not teach the fungicidal composition comprises at least one emulsifier. However, the deficiency is cured by Savage et al.

Savage et al. teach the use of fatty acids or their salts at appropriate concentration ranges are useful for eradication of established fungal infections in or on plant tissues, and thus allows the useful applications of these agents for the control of plant diseases (column 3, lines 33-40).

Savage et al. teach that fatty acids are a class of natural compounds which occur abundantly in nature and have valuable biological activities against fungi (column 2, lines 43-47). The fatty acids are highly advantageous for pesticidal use because they occur commonly in nature, have little mammalian toxicity, are compatible with other biological control strategies and are readily broken down to innocuous components (column 5, lines 49-54).

Savage et al. also teach that fatty acid can be used to reduce pathogen population by colonization, where desirable microbes within the colony can be enhanced by further applying an enrichment agent (e.g. a particular nutrient source such as starch, cellulose or other macromolecular food base) (column 4, lines 42-55). Savage et al. also teach that established fungal infections are effectively controlled by compositions comprising fatty acids having 7-20 carbon atoms. More specifically, Savage et al. exemplify that fatty acids, such as C9 (pelargonic acid) and C18 (oleic acid) (column 5, line 35- column 6, line 10).

Savage et al. further teach that tank mixes of fatty acids can be prepared in the form of fatty acid spray oil using solvent solution or emulsion of the fatty acid, a surfactant, and

sufficient water to dilute the mixture to the desired concentration. Salts of fatty acids are readily dispersible or soluble in water, and the surfactants which may be used to emulsify the fatty acid in the aqueous formulations and can be any of the non-phytotoxic surfactants (column 7, lines 20-30).

Savage et al. teach that the fatty acid composition can be used to control a broad range of fungal targets on seeds, flowers, leaves, fruits of plants, cucumbers, lettuce, almonds, where the concentration of the fatty acid, such as pelargonic acid is about 0.25 to about 0.5 % w/v, are effective against established fungal infection (column 7, line 60 to column 8, line 22).

Finding of prima facie obviousness Rational and Motivation (MPEP 2142-2143)

It would have been obvious to a person of ordinary skilled in the art at the time the invention was made to combine the teaching of Tate, D. with Savage et al. to arrive at the instant claimed invention.

One of ordinary skill also would have been motivated to incorporate an emulsifier to formulate the aqueous composition, as taught by Tate, D. if an emulsion form of the composition is desired, because if tank mix of fatty acid is desired, it can be prepared in the form of fatty acid spray oil using solvent solution or emulsion of the fatty acid, a surfactant, and sufficient water to dilute the mixture to the desired concentration, in which the surfactant is used to emulsify the fatty acid in the aqueous formulations, as suggested by Tate, D. and Savage et al.

From the teaching of the references, one of ordinary skill in the art would have had a reasonable expectation of success to arrive at the claimed invention. Therefore, the invention as a

whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

(2) Claim 1-6, 10-12 and 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sedun et al. (U. S. Patent No. 5,246,716) and Savage et al. (U. S. Patent No. 5,366,995) in combination, and further in view of Roberts, J. R. (U. S. Patent No. 5,741,502).

Applicant Claims

Applicant claims a fungicidal composition comprising (**i**) a fatty acid, i.e. oleic acid or palmitic acid; (**ii**) an organic carboxylic acid, i.e. alanine, aspartic acid or glutamic acid, (**iii**) a carrier, i.e. water; (**iv**) at least one emulsifier, and (**v**) the composition further comprising an adjuvant or a diluent; wherein the fungicidally effective amounts is between about 1-99 % v/v, based on the total volume of the composition.

Determination of the scope and content of the prior art

(MPEP 2141.01)

Sedun et al. teach an environmental safe and non-phytotoxic composition which is useful in protecting plants from fungal infection (column 1, lines 6-8).

Sedun et al. teach that the fungicidal composition comprises an effective amount of one active ingredient, or a mixture, from metal salts of mono-carboxylic fatty acids, which having 4 to 18 carbon atoms, and a liquid carrier (column 1, lines 55-58 and 62),

Sedun et al. also teach that the fatty acid metal salt active can be the sole active ingredient, or in combination with other active ingredients that can broaden the antifungal

spectrum of the composition (column 1, lines 65-67 and column 2, line 1).

Sedun et al. also teach that the metal salts of the fatty acid can be calcium salts of octanoate, nonanoate, hexanoate or heptanoate, which is present in an amount from about 0.05-5 % by weight relative to the total weight of the composition. In addition, Sedun et al. teach that the effective amount of the active fatty acid salt will vary depending upon the identity of the fatty salt used, as some fatty acids are more fungicidally potent than others (column 2, lines 49-57 and column 12, claims 5-7).

Sedun et al. also teach that the composition comprises a carrier, i.e. water. However, other useful carriers, i.e. vegetable oils, light mineral oils, or cottonseed oil, can also be used to substitute water for the composition (column 3, lines 18, and 21-29). Furthermore, Sedun et al. teach that the composition can be in the form of a concentrated, or it can be further diluted with water prior to use (column 4, lines 1, 17, 39-41 and 55-59).

Sedun et al. teach that the fungicidal composition also comprises formulation enhancing agents, i.e. gums, dispersants or wetting agents (column 2, lines 3-9).

It is noted that octanoic and nonanoic acids are known in the art as caprylic acid and pelargonic acid, respectively.

With respect to claims 2, 21 and 22, Sedun et al. teach that to be fungicidally effective the fatty acid metal salt active ingredient should be used in concentration range of about 0.05 – 5 %, preferably 0.1-1 %, by weight of the total composition. However, the effective amount of the fatty acid active is vary, depending on the identity of the fatty acid active used, as some fatty acids are more fungicidally potent than other (column 2, lines 49-57). More specifically, Savage et al. teach the metal salt of the fatty acid nonanoic acid, which is present in an amount from

about 0.05 % to 5.0 % by weight relative to the total weight of the composition. The % volume of the fatty acid, i.e. nonanoic acid, for example, presents in the composition can be calculated by converting the % weight of the nonanoic acid into the % volume using the density (0.9 g/ml) of nonanoic acid. For example, 0.05 % to 5 % by weight of nonanoic acid corresponds to 0.056 % to 5.56 % by volume of nonanoic acid in the composition.

Savage et al. teach the use of fatty acids or their salts at appropriate concentration ranges are useful for eradication of established fungal infections in or on plant tissues, and thus allows the useful applications of these agents for the control of plant diseases (column 3, lines 33-40).

Savage et al. teach that fatty acids are a class of natural compounds which occur abundantly in nature and have valuable biological activities against fungi (column 2, lines 43-47). The fatty acids are highly advantageous for pesticidal use because they occur commonly in nature, have little mammalian toxicity, are compatible with other biological control strategies and are readily broken down to innocuous components (column 5, lines 49-54).

Savage et al. also teach that fatty acid can be used to reduce pathogen population by colonization, where desirable microbes within the colony can be enhanced by further applying an enrichment agent (e.g. a particular nutrient source such as starch, cellulose or other macromolecular food base) (column 4, lines 42-55). Savage et al. also teach that established fungal infections are effectively controlled by compositions comprising fatty acids having 7-20 carbon atoms. More specifically, Savage et al. exemplify that fatty acids, such as C9 (pelargonic acid) and C18 (oleic acid) (column 5, line 35- column 6, line 10).

Savage et al. further teach that tank mixes of fatty acids can be prepared in the form of fatty acid spray oil using solvent solution or emulsion of the fatty acid, a surfactant, and

sufficient water to dilute the mixture to the desired concentration. Salts of fatty acids are readily dispersible or soluble in water, and the surfactants which may be used to emulsify the fatty acid in the aqueous formulations and can be any of the non-phytotoxic surfactants (column 7, lines 20-30).

Savage et al. teach that the fatty acid composition can be used to control a broad range of fungal targets on seeds, flowers, leaves, fruits of plants, cucumbers, lettuce, almonds, where the concentration of the fatty acid, such as pelargonic acid is about 0.25 to about 0.5 % w/v, are effective against established fungal infection (column 7, line 60 to column 8, line 22).

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

Sedun et al. and Savage et al. do not teach the fungicidal composition comprising an organic carboxylic acid, as claimed. However, the deficiency is cured by Robert et al.

Roberts, J. R. teaches an adjuvant composition which improves the chemical and physical properties of a fungicide (column 1, lines 1-20). Roberts, J. R., teaches when pesticides, i.e. fungicides, are used in combination with adjuvants, the chemical and physical properties of the pesticide (such as a fungicide) can be improved (see column 1, lines 14-19).

Roberts, J. R. teaches that the adjuvant composition comprises a spray oil, a surfactant and a buffering agent in an amount to reduce the pH to below about 7, wherein the spray oil can be fatty acids sand blends thereof, i.e. unsaturated and unsaturated fatty acids of about 6 to about 18 carbon atoms and present in an amount from about 1-99 % (column 4, lines 7-16). Roberts, J. R. also teach that the adjuvant composition is used to enhance biological activity of the pesticide or to reduce chemical instability and phytotoxicity (column 1, lines 22-41).

Roberts, J. R. also teaches that the adjuvant composition comprises buffering agent in an appropriated amount to maintain the pH of the composition within a desired pH range (column 2, lines 58-60 and column 3, lines 1-6).

Roberts, J. R. also teach that the suitable buffering agent includes glutaric acid, gluconic acid, glycolic acid, acrylic acid or C_1-C_6 carboxylic acids, and the amount of the buffering agent can be present from about 0.5 % to about 10 % by weight in the formulation. However, the amount can be varied and preferably present in the amount in which the pH reduction could be accomplished by using no more than 0.5 % by volume of the final composition (column 6, lines 51-67 and column 7, lines 1-3). Roberts, J. R. further teaches that oil/emulsifier or water can also be added to the buffering agent (column 9, lines 19-21). More specifically, Roberts, J. R. exemplify an example of the adjuvant composition, which comprises 80 % of spray oil, total of 2% of carboxylic acids: acetic acid, critic acid and glutaric acid (column 12, Example 8).

With respect to claims 4, 15 and 16, Roberts, J. R. teaches that the buffering agent can be glycolic acid. It is known in the art that glycolic acid is a mono-carboxylic acid which has a straight alkyl chain substituted with a hydroxyl group.

With respect to claims 10, 23 and 24, Roberts, J. D. teaches that the buffering agent, i.e. glycolic acid, can be used in the adjuvant composition and is present in an amount about 0.5 % to 10 % by weight (column 6, lines 51-67 and column 7, lines 1-3). The % volume of the glycolic acid (organic carboxylic acid) present in the composition can be calculated by converting the % weight of the glycolic acid into the % volume using the density (1.27 g/ml) of glycolic acid. For example, 0.5 % to 10 % by weight of glycolic acid, as taught by Roberts, J. R., corresponds to 0.39 % to 7.87 % by volume of glycolic acid in the composition.

(2) The prior art Roberts does not exemplify the weight ratio of fatty acid and organic carboxylic acid. However, based on the weight ratio between the fatty acid, i.e. nonanoic acid (pelargonic acid), and the organic carboxylic acid, i.e. glycolic acid, as taught by Roberts, J. R., which falls within the ranges of 1:1000 to 1000:1, or 1:5 to 5:1, as claimed. For example, the weight of the metal salts of nonanoic acid can be present in an amount of 2.5% and the weight of the organic carboxylic acid can be present in an amount of 0.5 %, which corresponds to a weight ratio of 5:1.

Finding of prima facie obviousness Rational and Motivation (MPEP 2142-2143)

It would have been obvious to a person of ordinary skilled in the art at the time the invention was made to combine the teaching of Sedun et al. and Savage et al. with Roberts, J. R. to arrive at the instant invention.

One of ordinary skill also would have been motivated to incorporate an emulsifier to formulate the aqueous composition, as taught by Sedun, D., if an emulsion form of the composition is desired because if tank mix of fatty acid is desired, it can be prepared in the form of fatty acid spray oil using solvent solution or emulsion of the fatty acid, a surfactant, and sufficient water to dilute the mixture to the desired concentration, in which the surfactant is used to emulsify the fatty acid in the aqueous formulations, as suggested by Savage et al.

One of ordinary skill also would have been motivated to incorporate a buffering agent, i.e. a carboxylic acid, into the adjuvant composition comprises the fatty acids if there is an need to maintain the pH of the fatty acids to below pH 7, or if there is necessary to further reduce the pH of the fatty acids blends to a more desirable acidic pH range, dependent on the pH, the forms

(free acid or metal salt form) and solubility of the selected fatty acid, as taught by the prior art Sedun et al., Savage et al. and Roberts, J. R.

From the teaching of the references, one of ordinary skill in the art would have had a reasonable expectation of success to arrive at the claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Response to Arguments and Declaration

Applicant's arguments filed on 07/22/2009 have been considered but they are not persuasive.

Applicant argues that the purpose of adding a chemo-tactic component (carboxylic acids: palmitic acid, oleic acid, alanine, aspartic acid and glutamic acid) to the Tate's formulation is to encourage spore germination and resultant fungal growth, so that the copper fungicide can be incorporated into the microorganism causing its death. Thus, only when the copper fungicide is present in the composition, the composition is expected to provide fungicidal activity; otherwise, fungal growth is promoted. Furthermore, Tate does not suggest nor imply in his invention that carboxylic acids, alone, have fungicidally activity (see Remarks: page 3).

The argument is not persuasive because the instant claims are written using the transitional phrase "comprising", which is a fully open-ended format and does not exclude any additional, unrecited elements from the scope of the claim. Even though the instant claims do not "positively" recite the inclusion of a copper-based fungicide, it does not exclude its presence with the fatty acid and the carboxylic acid based on the use of transitional phrase "comprising" in the claims as set forth above; thus, the prior art Tate, D. is remained obvious over the instant claims.

.In addition, the previous applied reference, namely Roberts, J. R., has been reconsidered because Roberts, J. R. suggests that adjuvants can be added to the agricultural chemical(s) to enhance the pesticidal performance, i.e. biological activity, by reducing application problems, i.e. chemical stability, incompatibility, solubility, evaporation, foaming, evaporation, suspension or coverage. They can enhance wetting, spreading, sticking, emulsifying, dispersing and biological activity, depending on the type of adjuvants (see column 1, lines 22-42).

Importantly, Roberts, J. R. suggests a buffering agent "**may**" not be required " **if** " the spray oil (e.g. fatty acids and blends thereof) or the surfactant (e.g. phosphate ester) of the composition can reduce the pH to below about 7 by itself. Therefore, Roberts, J. R. is implying if the pH of the fatty acids spray oil is in the desirable pH range, then a buffering agent may not be necessary; however, Roberts, J. R. does not positively teach away that if a **more** acidic pH range is desired for the fatty acids, the buffering agent should not be added. Hence, Roberts, J. R does not teach away the motivation for including a carboxylic acid into a composition comprises fatty acid, and thus would have been obvious for one of ordinary skill in the art to employ as needed.

With respect to the data provided in Table 4, 5 and 6 in the specification and Remarks, page 9-11), although they show synergistic fungicidal effect when 0.35 % or 0.7 % of caprylic acid (fatty acid) is combined with 0.35 % of glycolic acid (carboxylic acid) on berries; the data provided in the specification Table 13 (page 21) does not show the synergistic fungicidal effect when 0.014 % of caprylic acid is combined with 0.01 % of carboxylic acid for fungus *Botrytis cinerea*. In Table 13, when 0.014 % of caprylic acid (fatty acid) is used alone, it showed 88 % of fungal inhibition for *Botrytis cinerea*, and when 0.01 % of carboxylic acid: citric acid, succinic

acid, glycolic acid or diethylamine salicylate is used alone, it showed no fungal inhibition for *Botrytis cinerea*. Even when 0.014 % of caprylic acid and 0.01 % of the carboxylic acid (glycolic acid or diethylamine salicylate, respectively) is combined, it only showed 98 % or 99 % fungal inhibition, respectively. This result supports an additive fungal effect than a synergistic fungal effect, which is dependent on the type of fungus to be controlled and the concentration of the selected fatty acid and the carboxylic acid.

This rejections set forth above are based on the well established proposition of patent law that no invention resides in combining old ingredients of known properties where the results obtained thereby are no more than the additive effect of the ingredients, *In re Sussman*, 1943 C.D. 518. Applicants' invention is predicated on an unexpected result, which typically involves synergism, an unpredictable phenomenon, highly dependent upon specific proportions and/or amounts of particular ingredients. Any mixture of the components embraced by the claims which does not exhibit an unexpected result (e.g., synergism) is therefore *ipso facto* unpatentable.

Accordingly, the instant claims, in the range of proportions where no unexpected results are observed, would have been obvious to one of ordinary skill having the above cited references before him.

Applicant's Declaration filed on 07/22/2009 has been considered but they are not persuasive for the reasons as set forth above in the Response.

Conclusion

No claims are allowed.

Contact Information

Any inquiry concerning this communication from the Examiner should direct to Helen Mei-Ping Chui whose telephone number is 571-272-9078. The examiner can normally be reached on Monday-Thursday (7:30 am – 5:00 pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where the application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either PRIVATE PAIR or PUBLIC PAIR. Status information for unpublished applications is available through PRIVATE PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the PRIVATE PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/H. C./

Examiner, Art Unit 1616

/Mina Haghighatian/
Primary Examiner, Art Unit 1616